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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/348,891

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ANTONIUS A.C.M. KALKER

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

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BRIARCLIFF MANOR, NY 10510

EXAMINER

FLETCHER, JAMES A

ART UNIT

PAPER NUMBER

2621

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/348,891

Applicant(s)

KALKER ET AL.

Examiner

James A. Fletcher

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 23 May 2007 have been fully considered but they are not persuasive.

In re page 5, Applicant's Representative states: "the claimed invention beneficially reverses the typical order employed during watermark detection (transforming and then accumulating) with the claimed order of accumulating, and then transforming."

The Examiner understands this explanation (although the claim recites "inverse transforming") to mean that the watermark is embedded in the visible image rather than in the compressed data representing the image. This view is further borne out by the claim recitation of "detecting the watermark in said accumulated plurality of pictures." Itoh et al explicitly disclose watermarks embedded in both levels. The watermark embedded in the compressed data is disclosed in Col 3, lines 16-19, and embedding in the visible image is disclosed in Col 3, lines 20-23.

In re page 6, Applicant's Representative states: "Itoh does not teach or suggest 'accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal, wherein a picture is an array of pixels having the same size as the watermark,' and then 'inverse transforming said accumulated coefficients.'"

The examiner is unsure of exactly what parts of the list of things are untaught and unsuggested. While the Examiner agrees that Itoh does a conventional MPEG decoding process, that process does require the accumulation of coefficients and

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inverse transforming them in order to output a video signal. Further, Itoh also meets the claimed "array of pixels having the same size as the watermark" as analyzed and discussed in the non-final rejection.

Further in re page 6, Applicant's Representative states: "Itoh teaches decoding MPEG data, which requires the accumulation of coefficients between two or more frames, i.e., rebuilding an image using I, P and B frames. In contrast to the teachings of Itoh, claim 1 recites accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal. Itoh does not teach or suggest accumulating coefficients of the same frame, as recited in claim 1."

The Examiner respectfully points out that an I frame in MPEG is independent, and therefore can be encoded and decoded without reference to any other frame. Even so, the claim recites "at least," which allows for a plurality of frames to be decoded.

In re page 7, Applicant's Representative states: "Nowhere does Itoh teach or suggest accumulating coefficients and having as a result less data than one frame of the video signal. Instead, Itoh teaches decoding P and B frames, which results in more data as a result of accumulation with an I frame."

As the Examiner understands the invention of claim 7, the watermark is not as large as the entire frame, which is how the data for the watermark is less than the data for the frame. The rejection of the claim was based on Itoh's disclosure of a watermark taking up less area than the entire frame, which would be expected to require less data than an entire frame, as discussed in the non-final rejection. Itoh discloses that the

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watermarks can be smaller than the entire image in several places throughout the disclosure.

In re pages 7 and 8, Applicant's Representative states: "Itoh does not describe 'accumulating coefficients is applied to the coefficients representing said residual pictures irrespective of coefficients representing the prediction picture.'"

While the Applicant's Representative is silent regarding exactly where he considers Itoh et al to be insufficient, the Examiner will respectfully attempt to explain. As is understood by those of skill in the art, an MPEG decoder accumulates coefficients of a frame. If that is an I frame, those coefficients are inverse transformed by themselves into an image. Since the claim specifically recites a predictively encoded picture, the I frame is not addressed by it other than being subtracted from the predictively encoded picture, which is again in conformance with MPEG standards. Further, the predictive frame is stored or streamed as coefficients that need to be accumulated by themselves and transformed before they can be compared with the I frame. Since the claim contains no step beyond standard MPEG decoding, the rejection based on MPEG decoding meets the claimed material.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Itoh et al (6,700,989).

Regarding claims 1 and 4, Itoh et al disclose a method and means of detecting a watermark in a compressed video signal comprising spectral coefficients obtained by transforming pictures of said video signal (Col 29, lines 55-56 "compressed data are expanded by an MPEG decoder 56"), comprising:

- accumulating spatially corresponding coefficients of at least one picture of one frame of the video signal (Col 29, lines 55-56 "compressed data are expanded by an MPEG decoder 56") wherein a picture is an array of pixels having the same size as the watermark (Col 16, lines 22-24 "the two-dimensional pattern as the copyright information to be inserted has the size of Lx dots [in width] Ly dots [in height]");
- inverse transforming said accumulated coefficients into an accumulated plurality of pictures (Col 29, lines 55-56 "compressed data are expanded by an MPEG decoder 56"); and
- detecting the watermark in said accumulated plurality of pictures (Col 3, lines 20-23 "a scheme wherein the electronic watermark is superposed on and inserted into sampled value regions of two dimensions or three dimensions" and Col 4, lines 44-46 "The digital detection of the DHS watermark is easy in various areas [moving image data, compressed data, transmission data, sector data, etc.]").

Regarding claims 2 and 3, Itoh et al disclose a method of detecting a watermark wherein the encoded video signal includes predictively encoded pictures including motion vectors and wherein the step of accumulating coefficients is applied to the coefficients representing the residual pictures irrespective of coefficients representing the prediction picture and irrespective of said motion vectors (Col 29, lines 55-56 "compressed data are expanded by an MPEG decoder 56").

Regarding claim 6, Itoh et al disclose a device for recording and/or playing back a compressed video signal comprising means for disabling recording and/or playback of the video signal in dependence upon the presence of a watermark in the video signal (Col 4, lines 42-43 "The copy restriction mode is easily detected by a video recording/reproduction device" and Col 29, lines 56-58 "the display 59 of the watermarked moving image [53] is presented by a display device 57 in the case where the reproduction is permitted") detected as described above.

Regarding claim 7, Itoh et al disclose a method of detecting a watermark in a compressed video signal comprising spectral coefficients obtained by transforming at least one picture of said video signal (Col 29, lines 55-56 "compressed data are expanded by an MPEG decoder 56"), comprising:

- accumulating spatially corresponding coefficients of at least one picture (Col 29, lines 55-56 "compressed data are expanded by an MPEG decoder 56"), wherein the accumulated coefficients comprise less data than one frame of the video signal (Col 16, lines 22-24 "the two-dimensional pattern as the

copyright information to be inserted has the size of Lx dots [in width] Ly dots [in height]");

- inverse transforming the accumulated coefficients into an accumulated plurality of pictures (Col 29, lines 55-56 "compressed data are expanded by an MPEG decoder 56"); and
- detecting the watermark in the accumulated plurality of pictures (Col 3, lines 20-23 "a scheme wherein the electronic watermark is superposed on and inserted into sampled value regions of two dimensions or three dimensions" and Col 4, lines 44-46 "The digital detection of the DHS watermark is easy in various areas [moving image data, compressed data, transmission data, sector data, etc.]").

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Fletcher whose telephone number is (571) 272-7377. The examiner can normally be reached on 7:45-5:45 M-Th, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JAF
31 July 2007


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